

Use mental math!

1.  $\sqrt{121}$

2.  $\sqrt{\frac{16}{100}}$   $\frac{4}{10} = \frac{2}{5}$

$\sqrt{\frac{25}{100}} = \frac{5}{10} = \frac{1}{2}$

3.  $\sqrt{0.25}$

0.5

4.  $\sqrt{0.0009}$

$\sqrt{\frac{9}{10,000}}$

$-\frac{3}{100}$

5.  $\sqrt{89}$

9.5

9.4

6.  $\sqrt{15}$

3.8

3.9

7. What whole numbers make this statement true?

$3 < \sqrt{x} < 4$

~~9~~ 10 11 12 13 14 15 ~~16~~

10-15

+

( )

$\sqrt{\quad}$

# Order of Operations

•

$a^3$  ↙

—

÷

*Add to your Math Dictionary . . .*

# Order of Operations

**P**

grouping symbols

- parenthesis
- square root
- fraction bar

**E**

exponent

**M**

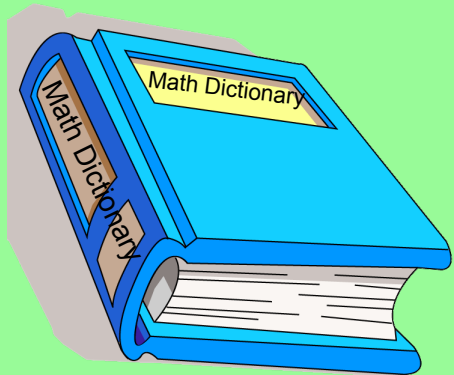
multiplication & division  
first from left to right

**D**

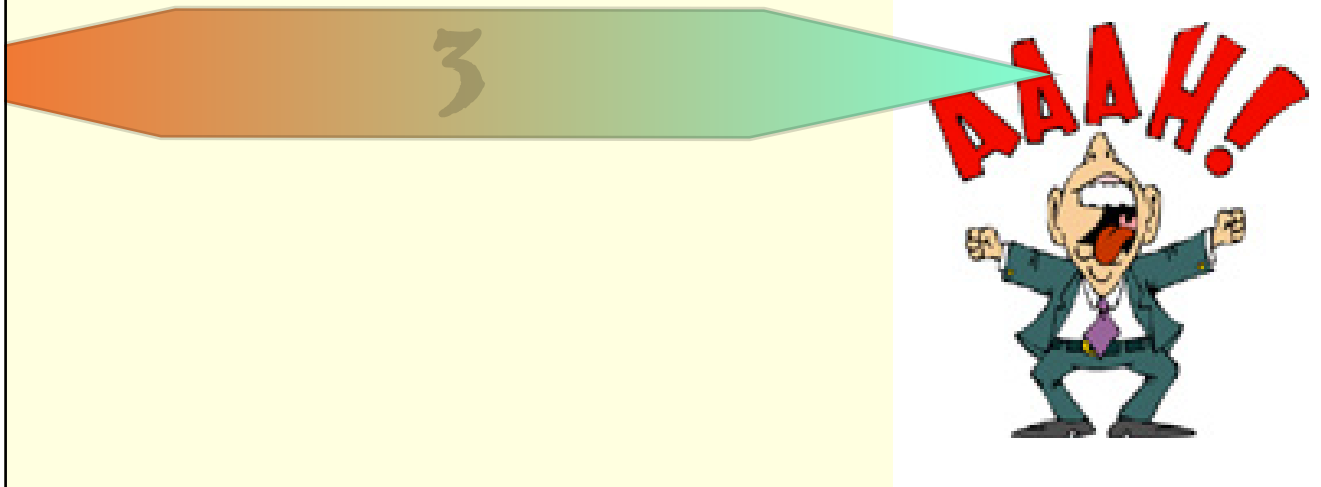
**A**

addition & subtraction  
first from left to right

**S**



## Common Mistakes to Avoid



1)  $(4 \bullet 7) + 12 \bullet 3$

$$28 + 12 \cdot 3$$

$$\downarrow 28 + 36$$

$$(64)$$

2)

$$\frac{9 \bullet 8}{100 \div 10} + 5$$

$$\frac{72}{100 \div 10} + 5$$

$$\frac{72}{10} + 5$$

$$7.2 + 5$$

$$12.2$$

3)

$$\frac{7 \cdot 10}{\sqrt{43+6}}$$

P E

$$\frac{7 \cdot 10}{\sqrt{49}}$$

$$\frac{70}{\sqrt{49}}$$

$$\frac{70}{7}$$

$$\frac{7}{10}$$

4)

$$8^2 + \sqrt{19+6}$$

$$8^2 + \sqrt{25}$$

$$8^2 + 5$$

$$64 + 5$$

$$69$$

5)

$$\sqrt{\frac{19+8}{9-6}}$$

6)

$$12 + 5\sqrt{8 \bullet 8}$$

$$12 + 5\sqrt{64}$$

$$12 + 5 \bullet 8$$

$$12 + 40$$

$$52$$

# Planner Time!